

Toscas

PRESIDENT'S MESSAGE



Something to think about

Our industry has some important potential strategic advantages in the marketplace. But to turn them into real advantages, we need to understand them fully and act on that understanding. I'd like to discuss two of them: high-performance systems and advanced materials.

Potential advantage 1: High-performance systems

Owners, architects, designers, constructors, and the general public increasingly demand structures that are:

- **Sustainable:** designed and built in a way that considers regional, global, and long-term effects, intelligently using materials and energy to ensure the availability of sufficient resources to future generations. This means, among other things, minimizing nonrenewable materials, energy use, and the environmental footprint while maximizing the service life.
- **Resilient:** able to resist permanent damage from natural and accidental events (for example, severe weather, earthquakes, and physical impact) and still remain serviceable. This benefit is gaining importance, particularly in the wake of the highly destructive hurricanes and tornadoes of recent years.
- **Protective:** more secure and comfortable for users and occupants because of structural stability, fire resistance, blast resistance, noise isolation, or resistance to mold or rot. Safety and security are difficult to measure but are increasingly desired as the world seems more threatening.
- **Constructive:** designed and built to have positive functional, economic, and aesthetic effects. This means, among other things, construction with minimal traffic disruption, material handling, power and water use, dust, fumes, noise, and overall duration. It also means a practical, beautiful structure that harmonizes with its environment.
- **Beautiful:** this is self-explanatory (just ask the beholder).

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James G. Toscas, PCI President

Precast concrete structures are inherently strong in providing these attributes and PCI's marketing approach underscores this in many ways, but there's much more we can do.

Among these, the hot topic has been sustainability. Now a new hot topic is emerging: functional resilience. We are natural leaders in this area. If we take hold of that lead and maintain it, we can avoid having to play catch-up later on.

A term that encompasses both sustainability and functional resilience is *high performance*. We need to own it. “Designers Notebook: High Performance Precast Insulated Sandwich Wall Panels” was published in the Summer 2011 issue of PCI’s *Ascent* magazine. However, the broadest definition of *high-performance* is still vague at this point, and if we intend to own it we need to define it.

To me, a high-performance system is one that has the versatility to meet a variety of needs. *High performance* is the most general way to discuss many of the attributes we have been emphasizing for years, including design flexibility, as touted by our “Discover the Freedom of Precast” tagline.

“Freedom of Precast” was targeted specifically to architects, who value design flexibility but often don’t associate it with precast concrete. Today, we need a core message that appeals to all decision makers and influencers. *High-performance systems* could be it. If high-performance systems can meet a wide variety of needs, then *high performance* can encompass a wide range of capabilities. It would provide a common theme that suits a variety of times, regions, markets, or targets and that logically underlies everything we say about precast concrete.

Why do we need to reach a broader range of groups? Today architects are not the only ones deciding whether to use precast concrete. As sustainability becomes more important, we see other stakeholders having increasing influence over materials and systems selection. Because of resource limitations, we may decide, for now, to limit our marketing to one or two decision-maker or influencer groups, but the core message of our marketing should make sense to anyone.

When the target audience changes, the focus may need to be changed—but the core message should not. For instance, *resilient* and *protective* are two sides of the same coin: resilience primarily benefits the owner, while protectiveness primarily benefits the user. Different focus, but the core message—high performance—is the same.

This approach would fit well with PCI’s three-tiered marketing. The core message, which would be promulgated nationally and even globally, would be the province of PCI itself. National programs are best positioned to increase general awareness and spur interest. The offshoots could be developed, customized to fit regional markets, and executed by our regional affiliates with resources such as information, templates, and collateral materials from PCI. PCI Producer Members can then be equipped and positioned to close the deal based more on value and less on price.

Potential advantage 2: Advanced materials

Because we fabricate precast concrete components under relatively controlled conditions, we have the obvious advantages of higher quality and consistency as well as leaner operations. Less obviously, we are well positioned to exploit advances in materials technology. For example, precast concrete producers in North America started producing with self-consolidating concrete years before it caught on with ready-mixed concrete producers. Why? New materials can be tricky to deal with and can be handled most effectively in a controlled environment. Our industry therefore benefits by staying at the forefront of concrete materials technology, and we should actively seek out, develop, and introduce new materials wherever possible.

For example, precast concrete producers have worked for years with supplementary cementitious materials, such as fly ash and silica fume. Recent efforts to reduce the carbon footprint of concrete structures have renewed interest in these materials, but they pose certain production challenges. In all likelihood, some practical research in this area could result in these materials being more extensively used by precasters.

PCI's research and development efforts focus on practical results that can be immediately applied, as they should. Who will conduct the research that has potential long-term payback and would benefit precast concrete more than cast-in-place concrete?

The next material for us to capitalize on might be ultra-high-performance concrete (UHPC). With elevated compressive and tensile strengths and possibly greater stiffness, ductility, or durability, UHPC could significantly expand the range of applications for which precast concrete is technically and economically viable. There have been a few spectacular examples of this, such as the Shawnessy Light Rail Transit Station in Calgary, AB, Canada. Again, the benefit to the precast concrete industry is potentially greater than to the cast-in-place concrete industry. Who will research and explore the possible new applications?

We might have an answer to these questions right beside us. At the last meeting of the PCI Foundation Board of Trustees in October 2011, Ken Lambla, dean of the School of Arts and Architecture at the University of North Carolina at Charlotte, gave an exceptional and thought-provoking presentation. After hearing status reports on the foundation's highly successful Architectural Design Studios, he tossed aside his prepared remarks and spoke off the cuff. He outlined the huge potential of the Architectural Design Studio program and introduced the idea of design research. Lambla was talking about the design of structures, but the same concept could be applied to the design of concrete systems as well.

The purpose of the PCI Foundation is to develop people and technology to improve society using precast concrete structures. Its key concept is to make precast concrete a better way to build. Better than what? Of course, we'd like to think it is better than steel or better than cast-in-place concrete, but I think it's sufficient to say simply "even better than it is today."

Design research is what we need to identify and develop new ways to build with precast concrete, to make it even better than it is today. Whether we want to know how we can use a new material or how we can create one, the foundation may be the right research vehicle, but finding new solutions won't do any good if we're not prepared to implement them. Our industry needs to be ready to use new types of materials and build new types of structures. Are we?

Our opportunity is now

Although we can be proud of our positions in the market for bridges and parking structures, precast concrete is not the default choice for most structures today. Opinions and preferences are predisposed to other systems, and we need to fight, project by project, to steer things our way. We've come to accept that precast concrete is not always the first choice, but why should we? What if precast concrete were the solution of choice and the other guys had to fight for every project?

Such a future is possible for us, but we need to change the way people think. In the broadest sense, this is the purpose of marketing.

I don't need to tell you that the current recession is not typical. Relatively speaking, the economy is in a state of chaos. Out of this chaos will come new priorities, policies, and preferences. To resolve this economic mess, leaders and professionals will see a need, and feel justifiably entitled, to break with past practice. The marketplace today is like fresh concrete: fluid and hard to nail down but formable. In a few years, it will begin to set into a new shape, recognizable yet different from what it has been. We need to help define that shape.

Now is the time to bend minds—starting with our own.▮